

REMARKS

This amendment and these remarks are responsive to the Office action dated July 22, 2005. Prior to entry of the above amendments, claims 1-20 are pending in the application with all claims rejected. By way of the present amendment, claims 1 and 9 have been amended, claims 16-20 cancelled and new claims 21-25 have been added. New claims 21-25 are fully supported by the specification and claims as originally filed. No new matter is added. Accordingly, in view of the remarks below, applicant respectfully requests allowance of the pending claims.

The Claims**Rejections under 35 U.S.C. §102**

Claims 1-6, 8, 9, and 11-20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kuwa et al (U.S. Patent No. 6,624,952). Applicant respectfully traverses the rejection for at least the following reasons.

In order to anticipate a claim, the cited reference must teach each and every element of the rejected claim. Applicant respectfully submits that Kuwa does not teach all the elements of the rejected claims.

Independent claims 1 and 9 have been amended to recite wide angle lens system with a field angle of at least 100 degrees. This concept is supported at least at paragraph [0029] on page 10 of the present application and the figures. As an example, in [0029] the application states: "Typically, wide angle lens group provides a field angle of greater than 100°."

The cited prior art does not teach projection at a field angle of at least 100 degrees. In fact, Kuwa, the principal reference used in the rejection of the claims, specifically teaches away from a field angle of at least 100 degrees. Kuwa describes all field angles outside the range of

48-60 degrees as being undesirable (Col. 8, line 57 – Col. 9, line 23).

With respect to the angle of view of the projection optical system, it is preferable that the following conditional formula (1) be fulfilled:

$$48 \leq \omega \leq 60 \quad (1)$$

where

ω represents the maximum angle of view (°).

Conditional formula (1) defines the maximum angle of view of the projection optical system. If the lower limit of conditional formula (1) is transgressed, the projection distance is so long that the rear projection apparatus has an unduly large depth. This makes the projection optical system unsuitable for miniaturization. If the upper limit of conditional formula (1) is transgressed, satisfactory performance cannot be obtained unless either the effective diameter of the front lens unit (GrF) is made larger or the angles of the optical surfaces of the front lens unit (GrF) at their periphery (the angles of tangent lines to each surface at its periphery relative to the normal to the vertex of the surface) are made smaller. Making the effective diameter of the front lens unit (GrF) larger increases the cost of its materials and makes its production difficult. Making the peripheral angles of the optical surfaces of the front lens unit (GrF) smaller results in problems as described earlier. Moreover, these surfaces come to have higher optical powers, and thus become so sensitive to errors as to make the mechanical arrangement and the adjustment procedure difficult. This makes it inevitable to increase the number of lens elements, and thus makes the projection optical system unsuitable for size, weight, and cost reduction.

Because Kuwa does not teach, or even suggest, a field angle of at least 100 degrees, Kuwa cannot anticipate the claims as presented and rejection of the claims should be withdrawn. Claims 2-6, 8, and 11-15, respectively, depend from claims 1 and 9, and therefore, rejection of those claims should be withdrawn for at least the same reasons.

Rejections under 35 U.S.C. §103

Claims 7 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Kuwa et al as applied to claims 1-6, 8, 9, and 11-20 in view of Cotton et al. (US 6,485,145).

In order to establish a *prima facie* case of obviousness the combined references must either teach or suggest all the claim limitations of the rejected claims. Applicant respectfully submits that no *prima facie* case of obviousness has been established because alone, or in combination, Kuwa and Cotton do not teach or suggest all the claim limitations of the rejected claims.

For example, as described above independent claims 1 and 9 have been amended to recite projection at a field angle of at least 100 degrees. As described above, Kuwa specifically teaches away from a field angle of at least 100 degrees. Cotton does not remedy the failure of Kuwa.

Briefly, Cotton is directed to an ultrathin optical panel where the image is displayed as part of the device. Cotton describes an optical system including an image source 110, an imaging element 120, an anamorphic element 130 and a telecentric element 140. (see col. 7, lines 37-40). It is noted that the Cotton system uses Scheimflug's rule (see col. 8, lines 9, 10) and is substantially tilted. A resulting artifact of Scheimpflug's condition is trapezoidal distortion or "keystoning" of the image. Cotton uses a "telecentric element 140" to reduce or eliminate the trapezoidal distortion. It is noted that in contrast to the Cotton system, Applicant's system is directed to a configuration which compensates for wide angle distortion – not keystone distortion. Further there is no disclosure in Cotton of use of a wide angle lens with a field angle of at least 100 degrees.

In addition, neither Kuwa or Cotton are front projection systems. In contrast, both describe rear projection systems.

Because none of the cited references teach, or even suggest, a field angle of at least 100 degrees or a front projection system, a *prima facie* case of obviousness has not been established

against independent claims 1 and 9 and, accordingly, rejection of the dependent claims 7 and 10 should be withdrawn.

Provisional Double Patenting

Applicant respectfully notes that the provisional double patenting rejection is based on Application No. 10/754,093 in view of Cotton. Cotton has been discussed above. As this is a double patenting rejection, and if, the Examiner maintains the rejection, Applicant reserves the right to address the issue in a later action.

New Claims

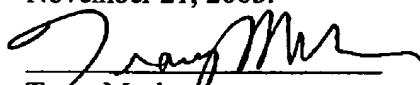
Support for new claims 20-25 can be found in the specification and drawings as originally filed. No new matter has been added.

Conclusion

Applicant believes that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, Applicant respectfully requests that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record at the number below.

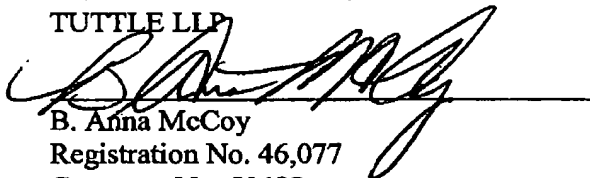
CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being sent to the U.S. Patent and Trademark Office via facsimile to (571) 273-8300 on November 21, 2005.


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Respectfully submitted,

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